Raspberry Pi Headless Setup

To set up your **Raspberry Pi 5 headlessly** (i.e., without monitor, keyboard, or mouse) using **Wi-Fi**, follow these **step-by-step instructions**. These steps assume you're using **Raspberry Pi OS (Raspbian)** and a **Windows/Linux/macOS** machine to prepare the SD card.

**✅ Prerequisites**

* Raspberry Pi 5
* MicroSD card with Raspberry Pi OS (use Raspberry Pi Imager)
* MicroSD card reader
* Power supply
* Your Wi-Fi credentials:
  + **SSID**: anil
  + **Password**: anil@123

**🛠 Step-by-Step Instructions**

**Step 1: Flash Raspberry Pi OS to SD Card**

1. Download and install **Raspberry Pi Imager**.
2. Choose OS → Raspberry Pi OS (32-bit recommended).
3. Choose your SD card.
4. Click ⚙️ **(Settings button)** before clicking "Write".
5. In Advanced Options:
   * Enable **SSH**
   * Set **hostname** (e.g., raspberrypi)
   * Configure **Wi-Fi**
     + SSID: anil
     + Password: anil@123
     + Wi-Fi country: IN (India) or your country
6. Click **Save** and then **Write** the image to the SD card.

Alternatively, do this manually in the next steps.

**Step 2: Enable SSH (Manual Method if not done via Imager)**

After flashing:

1. Open the boot partition of the SD card (labeled boot).
2. Create an **empty file** named:

ssh

(No extension)

**Step 3: Configure Wi-Fi (Manual Method)**

Still in the boot partition:

1. Create a file named:

wpa\_supplicant.conf

1. Add the following contents:

**country=IN**

**ctrl\_interface=DIR=/var/run/wpa\_supplicant GROUP=netdev**

**update\_config=1**

**network={**

**ssid="anil"**

**psk="anil@123"**

**key\_mgmt=WPA-PSK**

**}**

🔒 **Make sure the quotes are there**. Also ensure correct **line endings** (use a plain text editor like Notepad++ on Windows or nano on Linux/macOS).

**Step 4: Insert SD Card and Boot**

1. Insert the SD card into your Raspberry Pi 5.
2. Power it on.
3. Wait 1–2 minutes for it to boot and connect to Wi-Fi.

**Step 5: Find IP Address**

You can:

* Check your **Wi-Fi router's DHCP client list**.
* Use nmap (Linux/macOS):

nmap -sn 192.168.1.0/24

* Use a mobile app like **Fing** or some you can check settings in come Andriod phones

**Step 6: SSH Into Raspberry Pi**

Use this command from your terminal:

ssh pi@<ip-address>

e.g., if IP is 192.168.1.50:

ssh [pi@192.168.1.50](mailto:pi@192.168.1.50)

ssh [pi@raspberrypi.local](mailto:pi@raspberrypi.local)

Default password: raspberry

**✅ First Things To Do After Logging In**

* Change default password:
* Update packages:

sudo apt update && sudo apt upgrade -y